Therefore, what I claim, is:

Claims:

1. A method for detecting resistant fungal cells in clinical material, comprising the steps of:

   a) extraction of fungus-specific nucleic acids from clinical material; and

   b) hybridization of the fungus-specific nucleic acids with hybridization probes which are directed against nucleic acid segments of azole derivative-resistant fungal cells.

2. The method as in Claim 1, wherein the hybridization probes are directed against a DNA segment from the 14-α-lanosterol demethylase gene.

3. The method as in Claim 2, wherein the hybridization probes are directed against a DNA segment from the 14-α-lanosterol demethylase gene (ERG16 gene) of the species Candida albicans.

4. The method as in Claim 2, wherein between steps a) and b) a PCR reaction is performed in which segments of the 14-α-lanosterol demethylase gene are amplified.

5. The method as in Claim 3, wherein between steps a) and b) a PCR reaction is performed in which segments of the 14-α-lanosterol demethylase gene are amplified.

6. The method as in Claim 4, wherein a primer for the PCR reaction is selected from the group consisting of SEQ ID-No.: 1, SEQ ID-No.: 2, SEQ ID-No.: 3 and SEQ ID-No.: 4.

7. The method as in Claim 5, wherein a primer for the PCR reaction is selected from the group consisting of SEQ ID-No.: 1, SEQ ID-No.: 2, SEQ ID-No.: 3 and SEQ ID-No.: 4.

8. The method as in Claim 1, wherein a hybridization probe for step b) is selected from the group consisting of SEQ ID-No.: 5, SEQ ID-No.: 6, SEQ ID-No.: 7 and SEQ ID-No.:8.

9. The method as in Claim 4, wherein a hybridization probe for step b) is selected from the group consisting of SEQ ID-No.: 5, SEQ ID-No.: 6, SEQ ID-No.: 7 and SEQ ID-No.:8.

Sub a1 10. The method as in Claim 6, wherein a hybridization probe for step b) is selected from the group consisting of SEQ ID-No.: 5, SEQ ID-No.: 6, SEQ ID-No.: 7 and SEQ ID-No.:8.

11. The method as in Claim 1, wherein in step b) the hybridization probes are labeled with digoxigenin and used in Southern hybridization.

Sub a2 12. The method as in Claim 8, wherein after hybridization, at least one washing step is performed at a temperature which

is approximately 1°C less than the melting temperature (Tm) of the particular hybridization probe used.

13. The method as in Claim 9, wherein after hybridization, at least one washing step is performed at a temperature which is approximately 1°C less than the melting temperature (Tm) of the particular hybridization probe used.

14. The method as in Claim 10, wherein after hybridization, at least one washing step is performed at a temperature which is approximately 1°C less than the melting temperature (Tm) of the particular hybridization probe used.

15. The nucleotide sequence SEQ ID no. 1 from the enclosed Sequence Listing.

16. The nucleotide sequence SEQ ID no. 2 from the enclosed Sequence Listing.

17. The nucleotide sequence SEQ ID no. 3 from the enclosed Sequence Listing.

18. The nucleotide sequence SEQ ID no. 4 from the enclosed Sequence Listing.

19. The nucleotide sequence SEQ ID no. 5 from the enclosed Sequence Listing.

20. The nucleotide sequence SEQ ID no. 6 from the enclosed Sequence Listing.

21. The nucleotide sequence SEQ ID no. 7 from the enclosed Sequence Listing.

22. The nucleotide sequence SEQ ID no. 8 from the enclosed Sequence Listing.

23. Use of the nucleotide sequences SEQ ID no. 1 and SEQ ID no. 2 as primers, and nucleotide sequences SEQ ID no. 5 and/or SEQ ID no. 6 as hybridization probes, in a method as in Claim 4.

24. Use of the nucleotide sequences SEQ ID nos. 3 and SEQ ID no. 4 as primers, and nucleotide sequences SEQ ID no. 7 and/or SEQ ID no. 8 as hybridization probes, in a method as in Claim 4.

25. A kit for the analysis of fungal infections with azole derivative-resistant fungal strains, containing at least one nucleotide sequences selected from the group consisting of SEQ ID-No.: 1, SEQ ID-No.: 2, SEQ ID-No.: 3, SEQ ID-No.: 4, SEQ ID-No.: 5, SEQ ID-No.: 6, SEQ ID-No.: 7, SEQ ID-No.: 8.

26. A kit for performing the method as in Claim 1.

A22 Q3